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EXAMINER	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/826,882	RASANEN ET AL.	
	Examiner	Art Unit	
	DANIEL LAI	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 November 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,4-12 and 15-39* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3,5-9,12-26 and 28-39* is/are rejected.

7)☒ Claim(s) *2,4,10,11 and 27* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

Claim 1 is objected to because of the following informalities: The recitation "exist sthird" appears to be a spelling error. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 12, 16, 21, 26, 30 and 33-37 are rejected under 35 U.S.C. 102(b) as being anticipated by WO 01/65881, hereinafter WO'881.

Regarding claims 12 and 33-35, WO'881 discloses a method and an apparatus for negotiation or re-negotiation of at least one parameter for use in the operation of a protocol that controls data transmission between first communication units and third communication units via second communication units (p. 11, line 15-p. 12, line 24). WO'881 discloses said protocol is operated by protocol entities in said first and third communication units (p. 11, lines 15-27, where WO'881 discusses protocol entities). WO'881 discloses a first communication unit is always associated with a second communication unit at a time and a second communication unit is always associated with a third communication unit at a time (p. 8, lines 12-31, where WO'881 discusses different network entities). WO'881 discloses there exists third communication units of at least a first and second type that require different choices of said parameter (p. 8, lines 12-22,

p. 11, line 29-p. 12, line 9). WO'881 discloses when an existing association of a first communication unit with a former second communication unit that was associated with a third communication unit of said first type is changed to an association of said first communication unit with a new second communication unit that is associated with a third communication unit of said second type (p. 8, line 24-p. 9, line 8, p. 12, line 11-23). WO'881 discloses said protocol entities of said first communication unit and protocol entities of said third communication unit of said second type exchange at least one negotiation message containing a value for said parameter (p. 13, line 25-col. 14, line 11, where WO'881 discusses target MSC exchange negotiation message containing parameter with the mobile station). WO'881 discloses transmitting, in said exchange of said negotiation message, a negotiation message containing a value for said parameter from said protocol entity of said third communication unit associated with said new second communication unit to said protocol entity of said first communication unit (p. 13, line 25-p. 14, line 11). WO'881 discloses said value for said parameter depends on a transmission characteristic of a transmission medium between said new second communication unit and its associated third communication unit (p. 11, line 29-p. 12, line 9, p. 12, line 25-p. 13,line 2). WO'881 discloses said value can be determined by said third communication unit for each of the second communication units it can be associated with (p. 13, line 4-9).

Regarding claim 16, WO'881 discloses the first CU is a mobile station (Fig. 1), the second CUs are Base Transceiver Stations (Fig. 1), and the third CUs are Mobile Switching Centers (Fig. 1).

Regarding claim 21, WO'881 discloses the protocol is circuit switched (p. 12, line 11-13).

Regarding claims 26, 30, 36 and 37, WO'881 discloses negotiation of parameters for use in the operation of a protocol that controls data transmission between first Communication Units (CU) and third CU via second CUs (Background of the Invention, where WO'881 discusses standards;

Summary of the Invention; p. 13, line 20-23). WO'881 discloses the protocol is operated by protocol entities in the first and third CUs (p. 3, line 4-8). A first CU is always associated with a second CU and the second CU is always associated with a third CU at a time (a mobile always associated with a base station and the base station always associated with a (Mobile Switching Center) MSC at a time). WO'881 discloses there exist second CUs of at least a first and second type and third CUs of at least a first and second type that require different choices of said parameter (p. 7, line 13-p. 8, line 22). WO'881 discloses in the case that it is possible that an association of said first CU with a second CU that is associated with a third CU of a first time may be change to an association of said first CU with a second CU that is associated with a third CU of a second type (p. 8, line 31-p. 9, line 4, where WO'881 discloses handover from old cell to a new cell; Fig. 1), the protocol entities of the first CU and the protocol entities of the third CU of the first type perform the step of exchanging at least one negotiation message containing a value for said parameter prior to said change of association (p. 13, line 20-23; p. 12, line 11-23).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 38 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO'881.

Regarding claims 38 and 39, WO'881 discloses the limitations of claims 12 and 26 as applied above. WO does not explicitly disclose a computer readable memory in which a computer program product is loaded and when executed perform the actions of claims 12 and 26. However, since WO'881 is discussing a cellular system, and more specifically, GSM and UMTS networks, which would require computer programs to perform network operations. It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the method of parameter negotiation as disclosed by WO'881 with a computer readable memory encoded with executable instructions and when executed perform the method of parameter negotiation disclosed by WO'881 in order to allow the method to perform with minimal manual process steps.

Claims 1, 5-7, 28, 29, 31 and 32are rejected under 35 U.S.C. 103(a) as being unpatentable over WO'881 in view of Lee et al. (US 6,621,809 B1).

Regarding claims 1, 29, 31 and 32, WO'881 discloses a method and an apparatus for negotiation or re-negotiation of at least one parameter for use in the operation of a protocol that controls data transmission between first communication units and third communication units via second communication units (p. 11, line 15-p. 12, line 24). WO'881 discloses said protocol is operated by protocol entities in said first and third communication units (p. 11, lines 15-27, where WO'881 discusses protocol entities). WO'881 discloses a first communication unit is always associated with a second communication unit at a time and a second communication unit is always associated with a third communication unit at a time (p. 8, lines 12-31, where WO'881 discusses different network entities). WO'881 discloses there exists third communication units of at least a first and second type that require different choices of said parameter (p. 8, lines 12-22, p. 11, line 29-p. 12, line 9). WO'881 discloses when an existing association of a first communication unit with a former second communication unit that was associated with a third communication unit of said first type is changed to an association of said first communication unit with a new second communication unit that is associated with a third communication unit of said second type (p. 8, line 24-p. 9, line 8, p. 12, line 11-23). WO'881 discloses said protocol entities of said first communication unit and protocol entities of said third communication unit of said second type exchange at least one negotiation message containing a value for said parameter (p. 13, line 25-col. 14, line 11, where WO'881 discusses target MSC exchange negotiation message containing parameter with the mobile station). WO'881 discloses starting said exchange of said at least one negotiation message by transmitting from a protocol entity of said third

communication unit of second type, a negotiation message containing a value for said parameter to a protocol entity of said first communication unit (p. 13, line 25-p. 14, line 11), but does not expressly disclose starting the exchange of negotiation in reverse direction. In an analogous art, Lee discloses initiation of parameter negotiation by sending a request from a mobile station to a network entity (col. 10, line 66-col. 11, line 6). Therefore, mobile initiated parameter negotiation was known in the art. It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the parameter negotiation method as disclosed by WO'881 to initiate the negotiation process by sending request from the mobile station as disclosed by Lee such that the mobile station can negotiate for parameters required to accomplish desired quality of service.

Regarding claim 5, WO'881 discloses the first CU is a mobile station (Fig. 1), the second CUs are Base Transceiver Stations (Fig. 1), and the third CUs are Mobile Switching Centers (Fig. 1).

Regarding claim 6, WO'881 discloses the third CU of the first type is a MSC of a mobile network operated according to the UMTS standard (p. 12, line 11-13), and the third CU of the second type is a MSC of a mobile network operated according to the GSM standard (p. 12, line 11-13).

Regarding claim 7, WO'881 discloses the protocol is circuit switched (p. 12, line 11-13).

Regarding claim 28, WO'881 discloses the limitations of claim 1 as applied above. WO does not explicitly disclose a computer readable memory in which a computer program product is loaded and when executed perform the actions of claim 1. However, since WO'881 is discussing a cellular system, and more specifically, GSM and UMTS networks, which would require computer programs to perform network operations. It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the method of parameter negotiation as disclosed by WO'881 with a computer readable memory encoded with executable

instructions and when executed perform the method of parameter negotiation disclosed by WO'881 in order to allow the method to perform with minimal manual process steps.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over WO'881 in view Lee as applied to claim 7 above, and further in view of WO 02/25888, hereinafter WO'888.

WO'881 discloses the limitations of claim 7 as applied above. WO'881lacks the protocol is a Radio Link Protocol. WO'888 discloses a method for handling non-transparent data calls by the use of a Radio Link Protocol (RLP) to provide error-free data transmission (p. 1, paragraph 2). It would have been obvious to one having ordinary skill in the art at the time of the invention to combine the method of negotiation of system parameters as disclosed by WO'881 with the RLP disclosed by WO'888 such that the data transmission for the handoff process can be error-free.

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over WO'881 in view Lee as applied to claim 7 above, and further in view of 3GPP TS 24.022 version 5.1.0 Release 5 (hereinafter TS 24.022).

WO'881 in view of Lee discloses the limitations of claim 7 as applied above. WO'881 fails to disclose the parameter defines the value of a resequencing timer that guards the difference between the delays of frames transmitted on different physical links within a multi-link protocol. TS 24.022 discloses a re-sequencing timer (T4) as a XID parameter (p. 14, Table 1). TS 24.022 further discloses "a multi-link version frames may be received out of sequence due to different transmission delays. The period of timer T4 guards the re-sequencing period" (p. 21, 5.5.6). It would have been obvious to one having ordinary skill in the art at the time of the invention to combine the method of negotiation

of system parameters as disclosed by WO'881 in view of Lee with the re-sequencing timer disclosed by TS 24.022 so that RLP standard can be applied to the method of negotiation disclosed by WO'881 and defined the required connection parameters (see WO'881, p. 1, line 13-26, where WO'881 discusses standard and specification).

Claims 22, 23 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO'881 in view of WO'888.

Regarding claim 22, WO'881 discloses the limitations of claim 12 as applied above. WO'881lacks the protocol is a Radio Link Protocol. WO'888 discloses a method for handling non-transparent data calls by the use of a Radio Link Protocol (RLP) to provide error-free data transmission (p. 1, paragraph 2). It would have been obvious to one having ordinary skill in the art at the time of the invention to combine the method of negotiation of system parameters as disclosed by WO'881 with the RLP disclosed by WO'888 such that the data transmission for the handoff process can be error-free.

Regarding claim 23, WO'881 discloses the limitations of claim 21 as applied above. The reference lacks the parameter define the value of an acknowledge timer that guards the re-transmission period after which the re-transmission of a not-acknowledged frame within a protocol with ARQ may be started. WO'888 discloses the parameter defines the value of an acknowledge timer (page 14, last paragraph where WO'888 discloses XIP frame). It would have been obvious to one having ordinary skill in the art at the time of the invention to combine the method of negotiation of system parameters as disclosed by WO'881 with the acknowledgement timer disclosed by WO'888 such that the retransmission can be provided after the timer timeout.

Regarding claim 25, WO'881 in view of WO'888 discloses the limitations of claim 12 as applied above. WO'881 lacks the value for the parameter depends on the transmission characteristic

of the transmission medium related to transmission delay between the new second CU and its associated third CU and the value can be determined by the third CU for each of the second CUs it can be associated with. WO'888 discloses "when the XID proxy is initialized it can be fed a value for T1 max that is felt by the network or its operator to be sufficiently large to cope with transmission delays arising from the characteristics of the network or otherwise… the MSC according to the logic indicated above the XID proxy can ensure that the value set in the negotiation process is not smaller than the initially fed value." (p. 10, last paragraph). It would have been obvious to one having ordinary skill in the art at the time of the invention to combine the method of negotiation of system parameters as disclosed by WO'881 with the determination of value for the parameter based on transmission medium characteristic disclosed by WO'888 such that the value of the delay timer is sufficiently large to cope with transmission delay.

Claims 15 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO'881 in view of 3GPP TS 24.022 version 5.1.0 Release 5 (hereinafter TS 24.022).

Regarding claim 15, WO'881 discloses the limitations of claim 12 as applied above. WO'881 further discloses a third CU determines a default value for the first CU (p. 6, line 13-16), and modifies the value of at least one parameter (p. 6, line 17-18). The reference lacks transmitting a negotiation message to the protocol entity of the third CU that is associated with the new second CU containing the same of a higher value for the parameter. TS 24.022 discloses method of negotiation of XID comprising "one side will start the process by sending an XID command, offering a certain set of parameters from the applicable parameter repertoire (see Table 1) the sending entity wants to negotiate proposing values within the allowed range. In return, the other side will send an XID response, either confirming these parameter values by returning the requested values, or offering higher or lower ones in their place" (p. 14, 5.2.2.6). It would have been obvious to one having

ordinary skill in the art at the time of the invention to combine the method of negotiation of system parameters as disclosed by WO'881 with the method of exchanging XID disclosed by TS 24.022 so that RLP standard can be applied to the method of negotiation disclosed by WO'881 and defined the required connection parameters (see WO'881, p. 1, line 13-26, where WO'881 discusses standard and specification).

Regarding claim 24, WO'881 discloses the limitations of claim 21 as applied above. WO'881 fails to disclose the parameter defines the value of a resequencing timer that guards the difference between the delays of frames transmitted on different physical links within a multi-link protocol. TS 24.022 discloses a re-sequencing timer (T4) as a XID parameter (p. 14, Table 1). TS 24.022 further discloses "a multi-link version frames may be received out of sequence due to different transmission delays. The period of timer T4 guards the re-sequencing period" (p. 21, 5.5.6). It would have been obvious to one having ordinary skill in the art at the time of the invention to combine the method of negotiation of system parameters as disclosed by WO'881 with the re-sequencing timer disclosed by TS 24.022 so that RLP standard can be applied to the method of negotiation disclosed by WO'881 and defined the required connection parameters (see WO'881, p. 1, line 13-26, where WO'881 discusses standard and specification).

Claims 17-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO'881 view of Musikka et al. (US 2002/0015392, hereinafter Musikka).

Regarding claims 17-20, WO'881 discloses the limitations of claim 16 as applied above. WO'881 further discloses one type of the second CU is a BTS that is connected to its associated MSC via a lower-delay network (GSM network) (p. 12, line 11-13). "GSM uses narrowband TDMA" (http://www.webopedia.com/TERM/G/GSM.html). WO'881 discloses the other type of the second CU is a BTS that is connected to its associated MSC via UMTS network (p. 12, line 11-13). The

reference lacks the other type of the second CU is a BTS that is connected to its associated MSC via a higher-delay network based the Internet Protocol. Musikka discloses a BTS that is connected to its associated MSC via a higher-delay network based the Internet Protocol (paragraph 10-11, claim 7). It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the method of negotiation of system parameters as disclosed to include a BTS that is connected to its associated MSC via a higher-delay network based the Internet Protocol such that circuit-switching is not required an greatly simplifies the resolution of problems with existing BSS implementations (Musikka, paragraph 17).

Allowable Subject Matter

Claims 2, 4, 10, 11 and 27 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DANIEL LAI whose telephone number is (571)270-1208. The examiner can normally be reached on Monday-Thursday 9:00 AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lester Kincaid can be reached on (571)272-7922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/D. L./
Examiner, Art Unit 2617

/Lester Kincaid/
Supervisory Patent Examiner, Art Unit 2617